

Serial No. 10/603,804

Docket No. K-0532

Amendment dated April 12, 2006

Reply to Office Action of January 10, 2006

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently amended) An apparatus for testing a performance of a mobile station having a global positioning system (GPS) function, comprising:

a conversion block to convert a GPS radio frequency (RF) signal and a Code Division Multiple Access (CDMA) RF signal to baseband signals;

a GPS search block to generate status information of the mobile station by using the baseband signals, an acquisition assistance (AA) data message, and a sensitivity assistance (SA) data message; and

a test block including test commands and a test user interface for testing the performance of the mobile station, said test block and test user interface being including within the mobile station, the test block generating the acquisition assistance (AA) data message and the sensitivity assistance (SA) data message with a first test command from the test user interface or through a diagnostic monitoring device, generating a second test command for controlling the GPS search block by using the status information, and generating test status information based on a result of the test,

wherein the apparatus tests the performance of the mobile station by operating the test block driven through the test user interface, ~~the apparatus including a conversion block to convert a GPS radio frequency (RF) signal and a Code Division Multiple Access (CDMA) RF signal to baseband signals and a GPS search block to generate status information based on the baseband signals.~~

2. (Currently amended) The apparatus of claim 1,

wherein the conversion block comprises a radio frequency (RF)/intermediate frequency (IF) block for converting the GPS RF (radio frequency) signal and the CDMA (Code Division Multiple Access) RF(radio frequency) signal to intermediate frequency/baseband ~~signals~~ signals; and

~~the GPS search block generates the status information of the mobile station by using the baseband signals, an acquisition assistance (AA) data message, and a sensitivity assistance (SA) data message from the test block,~~

the apparatus further comprising a keypad/display for inputting a user test command for a user thereon and display a test ~~result~~ result, and

~~wherein the test block generates the acquisition assistance (AA) data message and the sensitivity assistance (SA) data message with a first test command from the test user interface operated on the keypad or through a diagnostic monitoring device, generates a second~~

~~test command for controlling the GPS search block by using the status information, and generates test status information based on a result of the test, and~~

wherein the test user interface operated by the user on the keypad or through the diagnostic monitoring device transfers the status information to the display or ~~the~~ to the diagnostic monitoring device.

3. (Previously presented) The apparatus of claim 1, wherein the test user interface is operated in one of a sensitivity test mode, a GPS signal to noise ratio/Doppler estimation test mode, a time calibration test mode, or a setting mode for setting a circumstance of the test modes.

4. (Previously presented) The apparatus of claim 1, wherein the test user interface is included on a test mode menu list which a usual user does not access.

5. (Previously Presented) The apparatus of claim 1, further comprising a diagnostic monitoring device if the mobile station is located in a shield box.

6. (Previously Presented) A method for testing a performance of a mobile station having a global positioning system (GPS) function, comprising:

initiating the testing of the performance of the mobile station by setting set values according to a test type by an input through a keypad of the mobile station;

if an idle mode is in an off state, entering a traffic state;

if a currently proceeding test is for the first time, controlling a start of a GPS operation;

sending an acquisition assist (AA) data message and counting a number of tests in a first state;

performing a pilot phase measurement (PPM) search operation and a GPS search operation using the AA data message and a sensitivity assistance (SA) data message in a second state;

repeatedly testing each test item of the performance by using a performed result in a predetermined number of the tests; and

displaying results of the tests.

7. (Previously Presented) The method of claim 6, further comprising:

judging if a test mode is without SA after the AA data message is sent, and driving a timer for receiving the SA data message if it is judged that SA is to be used; and

if the test mode is without SA, performing the PPM search operation and the GPS search operation.

8. (Previously Presented) The method of claim 6, wherein the test type is one of a sensitivity, C/NO and Doppler estimation (CnO/Dopp), and time measurement (Tcal).

9. (Previously Presented) A method for testing a performance of a mobile station having a global positioning system (GPS) function, comprising:

setting set values according to a test type by an input through a keypad of the mobile station;

if an idle mode is in an off state, entering a traffic state;

if a currently proceeding test is for the first time, controlling a start of a GPS operation;

sending an acquisition assist (AA) data message and counting a number of tests in a first state;

performing a pilot phase measurement (PPM) search operation and a GPS search operation using the AA data message and a sensitivity assistance (SA) data message in a second state;

repeatedly testing each test item of the performance by using a performed result in a predetermined number of the tests; and

displaying results of the tests,

wherein when testing a sensitivity, a present mode is changed to a GPS continuous mode to proceed the performance test, a rate of success  $s$  is continuously updated ( $s=m/n*100$ ) as the number  $n$  of proceedings and the number  $m$  of successes are simultaneously counted, and the updated rate of success is displayed.

10. (Original) The method of claim 6, wherein the AA and SA data messages are defined by an IS801 protocol.

11. (Currently amended) A mobile terminal, comprising:  
a Global Positioning System (GPS) function configured to determine a position of the mobile terminal; ~~and~~

a GPS search block to generate status information of the mobile terminal by using baseband signals, an acquisition assistance (AA) data message, and a sensitivity assistance (SA) data message;

a test block including test commands configured to test a performance of the GPS function, the test block including test commands and a test user interface for testing the performance of the mobile terminal, the test block generating the acquisition assistance (AA) data message and the sensitivity assistance (SA) data message with a first test command from the test user interface or through a diagnostic monitoring device, generating a second test command

for controlling the GPS search block by using the status information, and generating test status information based on a result of the test.

12. (Previously presented) The mobile terminal of claim 11, further comprising:  
a Graphical User Interface (GUI) configured to drive the test block for testing the performance of the GPS function.

13. (Previously Presented) The mobile terminal of claim 11, wherein the test block includes a sensitivity test mode, a GPS signal to noise ratio/Doppler frequency shift estimation test mode, a time calibration test mode or a setting mode for setting values of the test modes.

14. (Canceled)

15. (Previously Presented) The mobile terminal of claim 11, wherein the test block comprises software loaded in a memory of the mobile terminal.

16. (Currently amended) The mobile terminal of ~~claim 14~~claim 11, wherein the status information relates to a GPS performance test.

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Docket No. **K-0532**

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17. (Currently amended) The mobile terminal of ~~claim 14~~claim 11, wherein the status information relates to a GPS signal to noise ratio.

18. (Canceled)

19. (Previously presented) The apparatus of claim 1, wherein the status information relates to a GPS performance test.

20. (Previously presented) The apparatus of claim 1, wherein the status information relates to a GPS signal to noise ratio.

21. – 23. (Canceled)